UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/504,156	02/15/2000	Jordan Brown	SUNB1P376/P4382	7524

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EXAMINER
KENDALL, CHUCK O

ART UNIT	PAPER NUMBER
2192	

DATE MAILED: 04/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>02/16/05</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-52</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-52</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

Detailed Action

1.   This action is in response to the application filed 02/16/05.

2.   Claims 1 – 52 are pending.

Continued Examination Under 37 CFR 1.114

3.   A request for continued examination under 37 CFR 1.114, including the fee set

forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this

application is eligible for continued examination under 37 CFR 1.114, and the fee set

forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action

has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on

02/16/2005 has been entered.

Claim Rejections - 35 USC §102

4.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5.   Claims 1, 2, 7 – 9,11 – 18,19, 20, 22 – 24, 26, 29, 35, 38, 43, 46 & 49, are

rejected under 35 U.S.C. 102(e) as being anticipated by Armangu USPN 6,434,681 (art

being made of record).

Regarding claim 1, Armangu anticipates a computer system providing a set of

software system services, a method of providing replacement functions for a the set of

software system services, comprising:

automatically sending a request for a primitive function from one of the set of

software services to another one of the set of software services, the primitive function

replicating the another one of the set of software system services receiving the request

for the primitive function services (for "*automatically sending*", see 8:35 – 39 "...in

response to a call from an application program executed by the host 20. The backup

software 24 issues a restore command to the primary data storage subsystem 21",) and

sending the request for the primitive function in a manner such that implementation of

the primitive function reduces or eliminates reliance on one or more system functions

capable of becoming non-functional in the event of system error (22:5 – 10,for "*primitive*

services" see during simulation and testing, also see snapshot copies for *"replicating"*);

and

receiving an identifier associated with the requested primitive function at the one

of the set of software system from another one of the set of software system services,

thereby enabling the one of the set of software system services to call the primitive

function via the identifier associated with the requested primitive function instead of the

another on of set of the software system services (8:21 – 25, see identification tag).

Regarding claim 2, the method as recited in claim 1, wherein receiving the

identifier associated with the requested primitive function is performed only when the

another one of the set of software system services receiving the request for the primitive

function performs a debugging function (refer back to 22:5 – 10 for, "debugging operations").

Regarding claim 7, see reasoning as previously discussed in claim 1.

Regarding claim 8, the method as recited in claim 7, wherein the primitive function information includes a pointer to the primitive function (7:17 – 20).

Regarding claim 9, the method as recited in claim 7, wherein the primitive function information includes state information data to be provided to the primitive function when the primitive function is called (8:48 – 51, for "state information", see "acknowledgement of completion or restore operations").

Regarding claim 11, see claim 4 for reasoning.

Regarding claim 12, see claim 2 for reasoning.

Regarding claim 13, see claim 1 for reasoning.

Regarding claim 14, the system as recited in claim 13, further comprising:

a primitive function calling mechanism adapted for calling one or more primitive software functions associated with the one or more identifiers returned by the primitive function request mechanism (8:35 – 40, see " in response to a call from an application program executed by the host 20. The backup software 24 issues a restore command to the primary data storage subsystem 21, and the restore command contains the tag of a backup version to be restored").

Regarding claims 15, the system as recited in claim 14, wherein the primitive function calling mechanism is associated with one or more of the set of software components (8:10 – 12).

Regarding claim 16, the system as recited, in claim 13, wherein the one or more

of the set of primitive software functions replace one or more of the set of services when

the set of services are determined to be inoperative (22: 5 – 10, for " inoperative", see

"corrupted").

Regarding claim 17, see claim 2 for reasoning.

Regarding claims 18, the system as recited in claim 13, wherein the one or more

identifiers associated with one or more of the set of primitive software functions are

returned in response to a primitive function request (8:48 – 51, for "state information",

see "acknowledgement of completion or restore operations").

Regarding claim 19, see claim 9 for reasoning.

Regarding claim 20, see claim 3 for reasoning.

Regarding claim 22, see claim 1 for reasoning.

Regarding claim 23, see claim 7 for reasoning.

Regarding claim 24, see claim 14 for reasoning.

Regarding claims 26, 35, 43 & 46, which cites similarly as claim 2 see rationale

as previously discussed above.

Regarding claims 29, 38, & 49, which cites similarly as claim 18 see rationale as

previously discussed above.

Claim Rejections - 35 USC § 103

6.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7.   Claims 3, 4, 6, 21, 25, 27, 28, 33, 34,36, 37, 42, 44, 45, 47 and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Armangu USPN 6,434,681 (art being made of record) as applied in claims 1,7, & 13 in view of Ahlin et al. USPN 5,321,840.

Regarding claims 3, 27,28, 33, 36, 37, 42, 44, 47 and 48 Armangu discloses all the claimed limitations as applied in claims 1, 7 and 13. Armangu doesn't explicitly disclose input and output functions. However, Ahlin does disclose this functionality in an analogous art (12: 3 – 10 see display functions and keyboard functions), stating that the bios which supports the input and output functionality of the system, e.g. keyboard, can be downloaded from a Network when needed. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Armangu with Ahlin because, updating the bios would enable modification of keyboard functions.

Regarding claim 4, which recites similarly to claim 1, see reasoning above.

Regarding claim 6, the method as recited in claim 4, further comprising: propagating the primitive function request down the one or more layers of the stack of software system services (11:35 – 50, shows communication link between components).

Regarding claims 21, 25, 34 & 45 Armangu discloses all the claimed limitations as applied in claims 1, 7 and 13. Armangu doesn't explicitly disclose providing keyboard functionality. However, Ahlin does disclose this functionality in an analogous

art (12: 3 – 10), stating that the bios which supports the input and output functionality of the system, e.g. keyboard, can be downloaded from a Network when needed. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Armangu with Ahlin because, updating the bios would enable modification of keyboard functions.

8.   Claims 31, 40 & 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Armangu USPN 6,434,681 as applied in claims 1, 7 and 13 and in view of Glasser et al. USPN 5,793,980.

Regarding claims 31, 40 & 51 Armangu discloses all the claimed limitations as applied in claims 1, 7 & 13. Armangu doesn't explicitly disclose delay loops. However, Glasser does disclose this function in an analogous art (9: 60), where Glasser uses the delay loop to prolong selecting until to accommodate the user. Therefore it would have been obvious for one of ordinary skill in the art at the time the invention was made to combine, Armangu with Glasser because, a delay loop would enable a user to delay a decision in the event of a query.

9.   Claims 30, 32, 39, 41, 50 & 52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Armangu USPN 6,434,681 as applied in claims 1, 7 and 13 and further in view of Halpern et al. USPN 6,282,711 B1.

Regarding claims 30, 39 & 50, Armangu discloses all the claimed limitations as applied in claims 1, 7 and 13 above. Armangu doesn't disclose without interrupts. However, Halpern does disclose this functionality (4: 5 – 15, see if interrupted continues), stating that the system transmits data without having to retransmit in the

event of an interrupt thereby preventing retransmission of already transmitting data.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the

invention was made to combine Armangu with Halpern because, transmitting data

without interrupts makes transmitting data to a remote location more efficient.

Regarding claim 32, 41 & 52, Armangu discloses all the claimed limitations as

applied in claims 1, 7 and 13 above. Armangu doesn't disclose without timers.

However, Halpern does disclose this functionality (8: 55 – 60), stating that downloading

software without time restrictions eliminates the penalty of receiving unnecessary data.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the

invention was made to combine Armangu with Halpern because, transmitting data

without time restrictions or timers makes transmitting data to a remote location more

efficient.

Response to Arguments

10.   Applicant's arguments with respect to claims 1 - 52 have been considered but are

moot in view of the new ground(s) of rejection.

Allowable Subject Matter

11.   Claims 5 & 10 is objected to as being dependent upon a rejected base claim, but

would be allowable if rewritten in independent form including all of the limitations of the

base claim and any intervening claims.

"...when the another one of the layers is responsible for performing at least one

of input and output, sending another primitive function request from the another one of

the layers in the stack of software system services to a lower layer in the stack of

software system services";

"...repeating the sending, returning, and storing steps over multiple layers of the

stack such that a stack of primitive mechanisms parallel to the stack of software system

services is assembled".

Correspondence Information

12.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Chuck Kendall whose telephone number is 571-272-

3698. The examiner can normally be reached on 10:00 am - 6:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Tuan Dam can be reached on 571-272-3695. The fax phone number for the

organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

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For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

WEI Y. ZHEN
PRIMARY EXAMINER

CK